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 NEWS 3 MAR 31 CAS REGISTRY enhanced with additional experimental
 spectra
 NEWS 4 MAR 31 CA/CAPplus and CASREACT patent number format for U.S.
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 AND CURRENT DISCOVER FILE IS DATED 23 JUNE 2008.
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* * * * * STN Columbus * * * * *

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=> file caplus

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TOTAL

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FULL ESTIMATED COST

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0.21

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FILE COVERS 1907 - 4 Aug 2008 VOL 149 ISS 6
 FILE LAST UPDATED: 3 Aug 2008 (20080803/ED)

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<http://www.cas.org/legal/infopolicy.html>

=> tetrafluorborate (s) (metal or li or lithium or na or sodium or k or potassium)
 TETRAFLUORBORATE IS NOT A RECOGNIZED COMMAND
 The previous command name entered was not recognized by the system.
 For a list of commands available to you in the current file, enter "[HELP COMMANDS](#)" at an arrow prompt (=>).

```
=> s tetrafluorborate (s) (metal or li or lithium or na or sodium or k or potassium)
      28 TETRAFLUORBORATE
1854028 METAL
208489 LI
345220 LITHIUM
807162 NA
1212655 SODIUM
1470040 K
688225 POTASSIUM
L1      2 TETRAFLUORBORATE (S) (METAL OR LI OR LITHIUM OR NA OR SODIUM OR
      K OR POTASSIUM)
```

```
=> s tetrafluoroborate (s) (metal or li or lithium or na or sodium or k or potassium)
      25067 TETRAFLUOROBORATE
1854028 METAL
208489 LI
345220 LITHIUM
807162 NA
1212655 SODIUM
1470040 K
688225 POTASSIUM
L2      5225 TETRAFLUOROBORATE (S) (METAL OR LI OR LITHIUM OR NA OR SODIUM
      OR K OR POTASSIUM)
```

```
=> s bf4 (s) (metal or li or lithium or na or sodium or k or potassium)
      19010 BF4
1854028 METAL
208489 LI
345220 LITHIUM
807162 NA
1212655 SODIUM
```

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1470040 K
688225 POTASSIUM
L3      2137 BF4 (S) (METAL OR LI OR LITHIUM OR NA OR SODIUM OR K OR POTASSIUM)
M)

=> s ?ammonium (a) (bf4 or tetrafluoroborate)
550598 ?AMMONIUM
19010 BF4
7 TETRAFLUOROBORATE
L4      7 ?AMMONIUM (A) (BF4 OR TETRAFLUOROBORATE)

=> s ?ammonium (a) (bf4 or tetrafluoroborate)
550598 ?AMMONIUM
19010 BF4
25067 TETRAFLUOROBORATE
L5      3706 ?AMMONIUM (A) (BF4 OR TETRAFLUOROBORATE)

=> s (l1 or l2) and (l3 ad l4)
MISSING OPERATOR L3 AD
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s (l1 or l2) and (l3 or l4)
L6      334 (L1 OR L2) AND (L3 OR L4)

=> s ?ammonium (a) (halide or fluoride or bromide or chloride or iodide)
550598 ?AMMONIUM
160802 HALIDE
276080 FLUORIDE
297824 BROMIDE
1219594 CHLORIDE
194356 IODIDE
L7      128703 ?AMMONIUM (A) (HALIDE OR FLUORIDE OR BROMIDE OR CHLORIDE OR IODIDE)

=> s l5 and l7
L8      413 L5 AND L7

=> s l6 and l7
L9      8 L6 AND L7

=> d 1-8 bib, ab

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L9 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

| Full Text | References |
|-----------|------------|
|-----------|------------|

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AN 2008:566491 CAPLUS
DN 149:113149
TI Surface tension of binary mixtures of imidazolium and ammonium based ionic
liquids with alcohols, or water: Cation, anion effect
AU Domanska, Urszula; Pobudkowska, Aneta; Rogalski, Marek
CS Physical Chemistry Division, Faculty of Chemistry, Warsaw University of
Technology, Warsaw, 00-664, Pol.
SO Journal of Colloid and Interface Science (2008), 322(1), 342-350
CODEN: JCISA5; ISSN: 0021-9797
PB Elsevier
DT Journal
LA English
AB The surface tensions were measured at atm. pressure, with use of a ring
tensiometer, of a series of alc. solns. of closely related ionic liqs.:
1-methyl-3-methylimidazolium methylsulfate, [MMIM][CH3SO4] in alc.
(methanol, or ethanol, or 1-butanol at 298.15 K), 1-butyl-3-
methylimidazolium methylsulfate, [BMIM][CH3SO4] in alc. (methanol, or
ethanol, or 1-butanol at 298.15 K), 1-butyl-3-methylimidazolium
octylsulfate, [BMIM][OcSO4] in alc. (methanol, or 1-butanol at 298.15 K)
and of 1-hexyloxymethyl-3-methylimidazolium tetrafluoroborate,

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[C6H13OCH2MIM][BF4], 1,3-dihexyloxymethylimidazolium tetrafluoroborate, [(C6H13OCH2)2IM][BF4] in alc. (methanol, or 1-butanol, or 1-hexanol at 308.15 and 318.5 K) and hexyl(2-hydroxyethyl)dimethylammonium bromide, C6Br in 1-octanol at 298.15 K. The set of ammonium ionic liqs. of different cations and anions (C2Br, C2BF4, C2PF6, C2N(CN)2, C3Br, C4Br and C6Br) was chosen to show the influence of small amt. of the ammonium ionic liq. on the surface tension of water at 298.15 K. The influence of the cation, or anion alkyl chain length on the properties under study (densities and surface tension) was tested.

RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

Full Text Citings
References

AN 2006:1005759 CAPLUS

DN 145:376914

TI Preparation of quaternary ammonium halides with low coloring and minimum content of amines and of quaternary salts therefrom

IN Nishimoto, Yoshihiro

PA Koei Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 12pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------|------|----------|-----------------|----------|
| PI | JP 2006257039 | A | 20060928 | JP 2005-78439 | 20050318 |
| PRAI | JP 2005-78439 | | 20050318 | | |

OS CASREACT 145:376914; MARPAT 145:376914

AB The halides Q⁺X⁻ (Q = quaternary ammonium cation; X = halo), useful for intermediates of electrolytes or catalysts, are prepd. by reacting tertiary amines with alkyl halides in the presence of basic alk. earth metal compds. [e.g., carbonates, (hydr)oxides, etc.]. The halides are ion exchanged with compds. M⁺A⁻ [M⁺ = proton, metal, ammonium cation; A⁻ = N(SO2CF3)⁻, BF4⁻, PF6⁻] to afford quaternary salts Q⁺A⁻ (Q, A = the same as above). Thus, 30.0 g of 1-methylimidazole was reacted with 58.7 g 60.2% EtCl/MeCN in the presence of Ca(OH)2 at 90° to give 1-ethyl-3-methylimidazolium chloride (I) with APHA color 240 and amine content 150 ppm. Then, I was further reacted with NaBF4 in MeCN at 25° to give ion-exchanged product with APHA color 240 and amine content 100 ppm.

L9 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

Full Text Citings
References

AN 2006:912889 CAPLUS

DN 145:293184

TI Improved process for preparation of alkoxysilylmethyl isocyanurates by cyclocondensation of alkali metal isocyanates with chloromethylsilanes, catalyzed by tetraalkylammonium salts

IN Popp, Alfred; Stowischek, Klaus

PA Consortium fuer Elektrochemische Industrie G.m.b.H., Germany

SO Ger. Offen., 7pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-----------------|------|----------|----------------------|----------|
| PI | DE 102005009790 | A1 | 20060907 | DE 2005-102005009790 | 20050303 |
| | WO 2006092324 | A1 | 20060908 | WO 2006-EP1969 | 20060303 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,

GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ,
 LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ,
 NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG,
 SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN,
 YU, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
 IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
 CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
 GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
 KG, KZ, MD, RU, TJ, TM

EP 1853613 A1 20071114 EP 2006-707401 20060303
 EP 1853613 B1 20080702

R: BE, DE, FR, GB, IT

CN 101133069 A 20080227 CN 2006-80006907 20070903
 KR 2007108930 A 20071113 KR 2007-722539 20071002

PRAI DE 2005-102005009790 A 20050303
 WO 2006-EP1969 W 20060303

OS CASREACT 145:293184; MARPAT 145:293184

AB Silylated 1,3,5-triazine-2,4,6-triones 1,3,5-[R1n(RO)3-nSiCH2]C3N3O3 [1, R = C4-15 organyl, COME; R1 = H, (un)substituted C1-20 organyl, optionally having O, CO, CO2, OCO, OCO2, S, amino, imino, azo, phosphino groups in the main chain; n = 0-2; preferably R, R1 = Me, Et], useful as adhesives or additives for organosiloxanes and siloxane polymers (no data), were prepd. by cyclocondensation of chloromethylsilanes R1n(RO)3-nSiCH2Cl (same R, R1) with metal isocyanates M(OCN)m (M = alkali or alk. earth metal, m = 1, 2; preferably M = Na, K) in the presence of tetraalkylammonium salts R24N+X- (R2 = C1-20 organyl, optionally substituted by CN, OH, halo; X = Cl, Br, I, BF4, BPh4; preferably R2 = Me, Et, Bu; R24N+ = PhCH2NBU3+; X = I-, BF4-) in dipolar org. solvent, preferably in DMF or DMF-contg. mixts., preferably having <200° b.p. at normal pressure, preferably in molar ratio M(OCN)m to R1n(RO)3-nSiCH2Cl of 1-1.2 at 0-200°, preferably at 80-100° in batch or continuous reactors. The use of tetraalkylammonium catalysts improves yields of 1 and reduces amts. of byproducts. In an example, 1,3,5-tris(methoxydimethylsilylmethyl)-1,3,5-triazine-2,4,6-trione (1, R = R1 = Me, n = 2) was prepd. by cyclocondensation of 0.33 mol of NaOCN with 0.3 mol of (MeO)Me2SiCH2Cl in 87.9 g of DMF in the presence of 1.6 mol% of Me4NI at 130° for 2 h with 87% yield; the yields of byproducts were less than 6.2%.

L9 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

Full Text Citing References

AN 2006:123472 CAPLUS

DN 144:182276

TI Cost-effective manufacture of (lower alkoxyalkyl)trimethylammonium salt ionic liquids

IN Amano, Yasutoshi; Noji, Kazuaki; Fujimoto, Masaki

PA Sanko Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | JP 2006036652 | A | 20060209 | JP 2004-214959 | 20040722 |
| PRAI | JP 2004-214959 | | 20040722 | | |

OS MARPAT 144:182276

AB The ionic liqs., useful as electrolytes for elec. devices, are manufd. by treatment of NMe3 with lower alkoxyalkyl chlorides, followed by anion exchange of the resulting (lower alkoxyalkyl)trimethylammonium chlorides with YA [A = H+, alkali metal cation; Y = BF4-, CF3SO3-, CF3CO2-, (CnF2n+1MO2)2N-, PF6-, AsF6-, SbF6-, (CnF2n+1MO2)2N-; M = S, C; n = 1, 2]. Thus, NMe3 was treated with C3H8O(CH2)2Cl and anion-exchanged with NaBF4 to give C3H8O(CH2)2NMe3+BF4- with potential window from -3.0 V to 2.3 V.

L9 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

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|--------------|----------------------|
| Full Text | Citing References |
|--------------|----------------------|

AN 2003:537623 CAPLUS
 DN 139:390066
 TI An efficient synthesis for tetracyanoborates by sinter processes
 AU Bernhardt, E.; Finze, M.; Willner, H.
 CS Anorganische Chemie, Universitaet Duisburg, Germany
 SO Zeitschrift fuer Anorganische und Allgemeine Chemie (2003), 629(7-8),
 1229-1234
 CODEN: ZAACAB; ISSN: 0044-2313
 PB Wiley-VCH Verlag GmbH & Co. KGaA
 DT Journal
 LA German
 OS CASREACT 139:390066
 AB A new efficient synthesis for tetracyanoborates in molar scale starting
 from the readily available reagents K[BF₄], LiCl, and KCN is
 presented. The tetracyanoborate, obtained after the sinter process and
 work up, is in contrast to the products of the reactions known so far a
 white solid without any impurities. The thermal behavior of the mixed
 cyanofluoroborates, K[BF_x(CN)_{4-x}] (x = 1-3), was investigated to solve the
 mechanism of the ligand exchange that takes place during the K[B(CN)₄]
 synthesis. Furthermore several metathesis reactions for the synthesis of
 different tetracyanoborates are described.

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

| | |
|--------------|----------------------|
| Full Text | Citing References |
|--------------|----------------------|

AN 2001:167660 CAPLUS
 DN 134:207547
 TI Preparation of stable (CF₃)₂N⁻ salts and their use in the synthesis of
 liquid crystals
 IN Heider, Udo; Schmidt, Michael; Sartori, Peter; Ignatyev, Nikolai;
 Kucheryna, Andrej
 PA Merck Patent G.m.b.H., Germany
 SO Eur. Pat. Appl., 11 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|------------------|----------|
| EP 1081129 | A2 | 20010307 | EP 2000-118126 | 20000828 |
| EP 1081129 | A3 | 20010321 | | |
| EP 1081129 | B1 | 20031022 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| DE 19941566 | A1 | 20010308 | DE 1999-19941566 | 19990901 |
| TW 221832 | B | 20041011 | TW 2000-89117401 | 20000828 |
| CA 2317284 | A1 | 20010301 | CA 2000-2317284 | 20000830 |
| BR 2000003885 | A | 20010403 | BR 2000-3885 | 20000830 |
| CN 1286245 | A | 20010307 | CN 2000-126092 | 20000831 |
| JP 2001122834 | A | 20010508 | JP 2000-265452 | 20000901 |
| US 6582849 | B1 | 20030624 | US 2000-654519 | 20000901 |
| RU 2257376 | C2 | 20050727 | RU 2000-122754 | 20000901 |
| PRAI DE 1999-19941566 | A | 19990901 | | |

OS MARPAT 134:207547
 AB Stable (CF₃)₂N⁺ salts [[[R₁(CR₂R₃)_klAx]y]K]+-N(CF₃)₂ [A = N, P,
 P(:O), O, S, S(:O), SO₂, As, As(:O), Sb, Sb(:O); K = N, P, As, Sb, S,
 Se; R₁-R₃ = H, halogen, (un)substituted alkyl, (un)substituted alkenyl,
 (un)substituted alkynyl, (un)substituted cycloalkyl, (un)substituted Ph,
 (un)substituted heteroaryl; k = 0-6; l = 0-2; x = 0, 1; yr = 1-4] [e.g.,
 (Bu)₄N⁺-N(CF₃)₂], useful as chem. intermediates and as liq. crystal

precursors (no data), are prepd. by the reaction of alkali metal amine salts $D+N(CF_3)_2$ (D = Group IA metal) [e.g., $RbN(CF_3)_2$] with salts $[[[R_1(CR_2R_3)k]lAx]yK]+-E$ (E = F, Cl, Br, I, BF_4 , ClO_4 , AsF_6 , SbF_6 , PF_6) (e.g., tetrabutylammonium tetrafluoroborate) in polar org. solvents (e.g., acetonitrile).

L9 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

| Full Text | Cited References |
|-----------|------------------|
|-----------|------------------|

AN 2000:504821 CAPLUS

DN 133:107335

TI Carbon electrodes for double-layer capacitors I. Relations between ion and pore dimensions

AU Salitra, Gregory; Soffer, Abraham; Eliad, Linoam; Cohen, Yair; Aurbach, Doron

CS Department of Chemistry, Bar-Ilan University, Ramat-Gan, 52900, Israel

SO Journal of the Electrochemical Society (2000), 147(7), 2486-2493

CODEN: JESOAN; ISSN: 0013-4651

PB Electrochemical Society

DT Journal

LA English

AB We characterized activated carbon electrodes for elec. double-layer capacitor (EDLC) systems. High-surface-area carbons were prepd. by carbonization of cotton cloth at elevated temps. (up to 1050°C), followed by activation at 900°C by oxidn. with CO_2 during different time periods. Sp. surface areas and characteristic pore sizes obtained from gas adsorption isotherms were correlated with those obtained from ion electroadsorption at the elec. double layer. Electrolytes studied included aq. $LiCl$, $NaCl$, and KCl solns. and nonaq. propylene carbonate solns. with $LiBF_4$ and $(C_2H_5)_4NBF_4$ salts. We found clear evidence that the porous carbons thus formed exhibit ion sieving properties, and that increasing activation time systematically increases the av. pore sizes of these carbons. The elec. double layer (EDL) capacity of these samples (calcd. from voltammetric measurements) depends strongly on the adsorption interaction of the ions in the pores, and hence the relationship between the av. pore size and the effective ion size detcs. the specific EDL capacitance of these samples. The following order of dimension of adsorbed species was found, based on the ion sieving of the various synthesized carbons of different av. pore size-- N_2 , $Na^+(aq)$, $Cl^- (\approx 3.6 \text{ \AA}) < BF_4^- < TEA^+(PC) < Li^+(PC)$.

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2008 ACS on STN

| Full Text | Cited References |
|-----------|------------------|
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AN 1987:42927 CAPLUS

DN 106:42927

OREF 106:6993a,6996a

TI Fluoroperoxide compounds of boron

AU Ippolitov, E. G.; Chernyshov, B. N.; Shchetinina, G. P.; Brovkina, O. V.; Martynyuk, Yu. L.; Gorin, Yu. V.

CS Inst. Vulkanol., Petropavlovsk-Kamchatskii, USSR

SO Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1986), 52(8), 818-23

CODEN: UKZHAU; ISSN: 0041-6045

DT Journal

LA Russian

AB 11B and 19F NMR study of $M_2B_4O_7 \cdot xH_2O - MF - H_2O_2$ solns. ($M = NH_4^+$, Li , Na , K) indicated the formation of BF_4^- , $[BF(OOH)_3]^-$, $[BF_2(OOH)_2]^-$, $[BF_3(OOH)]^-$, $[BF_3OH]^-$, $[B_2F_4(O_2)_2]^{2-}$, $[B_2F_2O_8H_2]^{2-}$, and $[B(OOH)_4]^-$. An increase in H_2O_2 concn. increased the amt. of $[B(OOH)_4]^-$ and $[BF(OOH)_3]^-$. The change in compn. of the products was studied with increase of F^- concn. and an increase in time.

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(FILE 'HOME' ENTERED AT 07:50:28 ON 04 AUG 2008)

FILE 'CAPLUS' ENTERED AT 07:50:40 ON 04 AUG 2008

L1 2 S TETRAFLUOROBORATE (S) (METAL OR LI OR LITHIUM OR NA OR SODIUM
L2 5225 S TETRAFLUOROBORATE (S) (METAL OR LI OR LITHIUM OR NA OR SODIUM
L3 2137 S BF4 (S) (METAL OR LI OR LITHIUM OR NA OR SODIUM OR K OR POTAS
L4 7 S ?AMMONIUM (A) (BF4 OR TETRAFLUROBORATE)
L5 3706 S ?AMMONIUM (A) (BF4 OR TETRAFLUROBORATE)
L6 334 S (L1 OR L2) AND (L3 OR L4)
L7 128703 S ?AMMONIUM (A) (HALIDE OR FLUORIDE OR BROMIDE OR CHLORIDE OR I
L8 413 S L5 AND L7
L9 8 S L6 AND L7

=>